ters by which it may be recognized. The part devoted to the botanical characters of the fungus shows the species to be very polymorphic. The indebtedness of the author to the studies of Prof. Scribner, of the United States Department of Agriculture (published in this journal for November, 1886, and elsewhere), is acknowledged, especially his indebtedness for the account and illustrations of the perithecia, which have, up to the present time, only been observed in this country. The subject is appropriately closed with full details of all effective means yet known for combating the disease.

NOTES AND NEWS.

MISS SUSAN M. HALLOWELL. profes-or of botany at Wellesley College, is pursuing studies in the laboratory of Dr. Kny at Berlin.

DR. J. H. OYSTER, of Paola, Kansas, has published his new catalogue of North American plants. It contains 125 pages and an index of genera. The price is $1.25.

"TIMBER, and some of its diseases," is the subject of a series of illustrated papers by H. Marshall Ward in *Nature*, beginning with issue of December 22, 1887.

MARCUS E. JONES gives a very interesting description of the flora of Utah, in a four-page pamphlet, said to be a reprint from Tullidge's magazine, *The Western Galaxy*, for March, 1888.

THE VOLUME on British Discomycetes by William Phillips, F. L. S., which was announced more than two years ago, has recently appeared as a number in the International Science series.

EDWARD L. BERTHOUD, a well known botanist and engineer of Colorado, is making a botanical excursion into Lower California, not only along the coast, but into the interior, from which we expect some interesting results.

A SOCIETY for the promotion of the knowledge and cultivation of Cacti and other succulent plants has been established at Antwerp, under the title of "Vetplantenkring." Any one interested in the subject can address the secretary, Mr. T. Havermans, Rue Jésus, 46, Antwerp.

DR. ANTON DE BARY, Professor of Botany in the University of Strassburg, died, after a brief illness, on the 20th day of January, in the fifty-seventh year of his age. The GAZETTE will publish next month a sketch of his life and personal traits from the pen of a former pupil, Dr. F. B. Power, of the University of Wisconsin.

EDWARD S. BURGESS has published a little guide to the student in botany for his use in the Washington (D.C.) High School. It shows a commendable effort to pursue the study of botany in the right way, even in high schools, and probably pushes the subject as far as is consistent with the time and appliances at command.

DR. ALEXANDER DICKSON, Professor of Botany in Edinburgh University, died December 30, being seized with a sudden illness while on the ice, engaged in his favorite pastime of "curling." He was 51 years of age. A biographical sketch in *Nature* (January 5) says that by his death the world loses one of its best morphologists.

NEW SPECIES of grasses are described by Dr. Geo. Vasey and Prof. F. L. Scribner in the *Bull. of Torr. Bot. Club* for January. They are a Muhlenbergia and a Sporobolus from Arizona, a Deyeuxia and a Bromus from Montana and the northwestern mountain region, two species of Poa and four of Alopecurus from Oregon and the northwest.

THE January number of the *Journal of Mycology* gives the usual variety of contents, but appears in a blank cover. There are 35 species added to the formerly printed list of the Ramulariæ and Cercosporæ of the United States, and 15 new species of *fungi imperfecti* are described. The February number will be delayed and issued with the number for March.

THE BOTANICAL SECTION of the biological society of Washington, at their first monthly meeting (January 4), presented the following programme: Recent progress in the study of the fresh-water algæ, E. S. Burgess; A case of sewer obstruction by tree roots, F. H. Knowlton; Some fungi of the arid regions, S. M. Tracy; Gloeosporium of the wax bean and Asteroma of the rose, Miss E. A. Southworth.

A WINTER course of four lectures before the Amateur Botanical Club of Washington was as follows: Prof. Miles Rock on the Guatemala forests, Prof. J. W. Chickering on the flora of Alaska, Prof. Edw. S. Burgess on the fresh-water algæ of the District of Columbia, and Dr. George Vasey on some important medical plants. The club is in a prosperous condition, having forty members and a good attendance at its regular meetings.

AN ABSOLUTELY NEW VEGETABLE is a rare thing to chronicle in these days, but such a thing falls to the lot of the *Gardener's Chronicle* (January 7). It is a tuber developed by a Chinese Labiate, said to be a Stachys. The tubers are borne at the ends of underground branches exactly as in the potato, and are also marked by buds, or "eyes," at the nodes. The plant is said to be hardy, is of the easiest possible culture, and produces the tubers in great profusion.

THE NOMENCLATURE of Nymphæa is further considered by Mr. James Britten in *Journal of Botany* (January). Enlarging upon Mr. E. L. Greene's discovery (*Bull. Torr. Bot. Club*, Sept., 1887), he gives still more convincing proofs that our nomenclature of water-lilies must be changed. Nymphæa should be *Castalia* Salisb., and Nuphar is *Nymphæa* L. The results upon our American forms are as follows: Nymphæa odorata becomes *Castalia pudica* Salisb.; Nuphar advena becomes *Nymphæa advena* Soland., and so on.

GARDEN AND FOREST is the name of the new journal for which the name of "Sylva" was first proposed. The first number will be issued this month. The editor-in-chief, Prof. C. S. Sargent, will be assisted by Dr. W. G. Farlow in the department of cryptogamic botany and plant diseases, Dr. A. S. Packard in entomology, and Mr. W. A. Stiles as managing editor. Many eminent writers have signified their willingness to contribute, and there is promise of an auspicious beginning. It is to be a weekly at four dollars a year.

THE INFLUENCE of forests upon rain-fall is a much-discussed question. Mr. Henry Gannett, in *Science* (January 6), treats this subject in a tabulated way, giving the rain-fall through a long series of years over the regions where one would expect a diminution from "deforesting." His

conclusion is, "it seems idle to discuss further the influence of forests upon rain-fall from the economic point of view, as it is evidently too slight to be of the least practical importance. Man has not yet invented a method of controlling rain-fall."

FREDERICK BRENDEL has distributed a pamphlet of about ninety pages, entitled "Flora Peoriana." It is a careful and painstaking presentation of the observations of thirty-five years upon the vegetation of a small area in middle Illinois. It is intended to show how local floras should be treated to be useful to phytogeography; how notice should be taken of soil and climate, to understand the vegetation of a certain floral district. It is packed full of useful information, and would serve as a guide to similar observations elsewhere.

FORMATION of starch by plants has been the subject of experiments recently conducted by Professors Ivey and Gray at the School of Agriculture, Canterbury, New Zealand. Peas, beans and wheat were used, and up to date the following results have been obtained, as given in *Gardener's Chronicle* (January 7): "Starch is least plentiful in leaves collected in early morning, more plentiful in those collected late in the afternoon, but before evening. The degree of sunshine has a direct effect on the rate of starch-formation; in continuous cloudy weather starch is formed by plants but very slowly."

"CONTRIBUTIONS to the life-histories of plants" is the title of a paper distributed by Mr. Thomas Meehan, a reprint from the *Proc. Philad. Acad.* It consists of observations of various kinds upon various plants. Amphicarpæa monoica is observed to have apetalous flowers upon the climbing as well as the trailing stems; these flowers produce a third form of pod, and are fertilized from the petal-bearing flowers. Cephalanthus occidentalis is shown to be close-fertilized by the rapid development of the style sweeping the pollen out of the anthers, after the manner of the Compositæ. In Amorpha canescens it is observed that the vexillum is remarkably tardy in development, in fact attaining its size and attractiveness after fertilization has been effected. In Oxybaphus hirsutus, also, nothing suggests any arrangements for cross-fertilization.

PROFESSOR PIERRE VIALA sailed for Europe on December 3, after a stay of some months in this country. One of the objects of his mission was to see if there was any species of Vitis growing wild in the United States on soils corresponding to the calcareous (chalk) soils of central France. He traveled through the southern United States, making special study of grape culture in California and Missouri. In Texas he gathered some interesting facts about the native species of Vitis, one species of which is likely to prove useful in France. Some forms of viticolous fungi were recognized not before recorded for the United States. He returned feeling that he had been most happily successful in the accomplishment of the purposes of his visit. His report will probably appear in France and in this country at about the same date, and will be a work of special interest to American viticulturists.

ERRATA.—On page 5, foot-note, for "1877" read 1887. On page 9, third and fifth lines from bottom: for "Gothic shaped" read L-shaped.